

TITLE: THE ROLE OF LOCAL COMMUNITIES IN CHEMICAL ACCIDENT PREVENTION
AND PREPAREDNESS

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ABSTRACT:

Since the adoption of community right-to-know programs in the U.S. there has been an increase in the number of groups known as local emergency planning committees. These committees have matured in focus over the intervening years since the Bhopal incident and even more so since the events of September 11, 2001. There is a strong recognition that local communities working very closely with chemical handling facilities in their areas can directly and meaningfully reduce the threat of a chemical release incident, regardless of cause.

Likewise, through similar means they can better prepare themselves to respond should an incident occur. Especially as regards modern concepts of process chemical safety and facility security, local communities can be of great assistance to smaller facilities that do not otherwise necessarily have the resources to accomplish these tasks. As the vulnerabilities of a facility to accident or intentional act, the impacts of these events and the ability of communities to react are all a function of local conditions, it is clear that these local efforts can be more meaningful than large-scale national efforts. While national legislation is certainly helpful to the process of bringing people together, it is the local relationships that produce results.

KEY WORDS: emergency planning, local control, accident prevention

MAIN TEXT:

In the United States there is little doubt among the public that the first responders in their communities, law enforcement and fire agencies primarily, will act and do their best to protect the citizens of the community in the event of a hazardous materials incident. Certainly this belief existed prior to the incidents of 9/11, but was greatly reinforced by the dedication shown and loss of life suffered by the fire and police agencies of New York.

Colorado is not New York. It is a state of about 5 million people with an average elevation of 2030 meters. High points in the state exceed 4400 meters. The bulk of the population is concentrated in 6 large metropolitan areas. The rest is very rural with little industrialization.

A very large number of the facilities handling hazardous chemicals are in the rural areas. In these communities, projected worst case scenarios from chemical releases - based upon reports filed under the U.S. Environmental Protection Agency's Risk Management Planning regulations - completely overwhelm the community with potentially lethal quantities of chemicals such as ammonia and chlorine.

While most of rural Colorado is served by volunteer fire departments, this does not carry a negative connotation. There is a sense that these volunteers are dedicated and determined. There is also a great deal of community pride in these departments and they frequently form a key component of the social life of the communities.

Nonetheless, people of the state feel confident in their emergency response agencies only to a point. That point is defined by two major gaps between what the public believes about the capabilities of their local agencies and the magnitude of the incidents they may face, especially those involving hazardous materials. First, the citizens do not necessarily believe that the volunteers have all the equipment and training they might need. Second, they do

not believe that the industrial community is doing all it can to prevent accidents.

Even though the Emergency Planning and Community Right-to-Know Act was adopted 17 years ago, most citizens are not aware that it exists and are certainly not aware that it provides the individual with access to information about both emergency planning and the chemical hazards present in their communities. In Colorado we routinely discover that citizens are unaware that both types of information are readily available. This raises a whole series of questions. Key among them is the question of whether the public simply does not care that data on chemical hazards is available?

This question likely has two possible answers. Some have suggested that this situation simply reflects apathy - which is profoundly negative if you are trying to create a system where public participation is crucial to improving community preparedness. Others suggest that the public assumes that an adequate emergency response exists. We suspect that to a real degree both are true at least prior to the occurrence of a significant incident.

In the United States it is clear that the public responds vigorously if they feel personally threatened. In the aftermath of a chemical incident the questioning and recriminations can be intense. On the other hand we become blind to facilities that have been around for years if they have not experienced problems. A new chemical plant will attract a lot of attention. The one that has been in the community for decades tends not to be noticed. The same response is true for small versus large facilities. The public simply does not appreciate the magnitude of risk presented by the large quantities of chemicals that may be stored and used at facilities with a small number of employees.

We do not believe this phenomenon is present when considering how the public evaluates local emergency response agencies - there is more direct information. Members of the public observe the emergency response assets of their communities routinely. They may judge from the newspaper reports and

other media coverage that the emergency responders appear calm, professional and competent as they go about their business. They also have a sense that at some level there is a body of people, perhaps their elected officials, that pay attention to such matters.

It is the Local Emergency Planning Committees (LEPCs) that routinely fill this role in our communities. These committees are made up of volunteers. Typically with representation from the industrial facilities in the community, fire and law agencies, elected officials, media, hospitals, schools, emergency planners and everyday citizens, the LEPCs work towards a goal of effective emergency response and planning at the most local level possible.

The LEPCs set their own specific tasks and objectives. No community is identical to the one next door. Small towns of a few hundred residents will be different than cities with tens of thousands of residents. The industrial facilities will be different. The hazards presented will be different. The capabilities of the emergency response agencies will be different.

These attitudes and approaches have remained very much intact even after 9/11. Even though our Department of Homeland Security and its state analogs are working on national response plans, it is still very clear that initial response to any incident is local. (A word of explanation is appropriate. Even though DHS is focused on terrorism, the objective of their planning effort is for the response to emergency incidents, regardless of cause, to be conducted through established plans and incident command systems.)

We all recognize that the first people on the scene of a hazardous chemical incident will be the victims of that incident regardless of cause. Local communities are, therefore, responsible to evaluate the risks the risks they face, including the process they will use to conduct that evaluation, and structure their response.

To this point this paper has focused on emergency response. While obviously crucial, the reality of any incident is that it has the potential to

get out of control causing serious harm and personal injury. No community possesses emergency responders that are so good as to immediately contain and resolve every incident they might face. The bigger and more threatening the incident the more likely it is to overwhelm the local community's resources.

There is always a finite limit to the actions the first response agencies will be able to take to protect the public in the event of an accident. The more limited the resources in a community, the greater the potential for an incident to get out of hand. This suggests that two things must be done in an effort to protect the public from the inevitable disruption, property damage and even injury or death that can come from a chemical accident. The first is to prepare the public to take action to protect themselves, their families and their neighbors in the event of an overwhelming incident. The second is to prevent it from happening in the first place.

Earlier in this paper LEPCs were described as local and volunteer. In addition they also lack money. Most operate with no budget. As such there is an obvious gap in their ability to accomplish the tasks described earlier. They struggle to inform the public and to provide information on hazards present and the actions individuals can take to prepare themselves.

Nonetheless, this work does get accomplished primarily through the personal initiative of the people that volunteer to sit on these committees. They work with other community volunteer groups to distribute information on critical topics such as first aid. In Colorado we also emphasize preparation of emergency kits with things such as first aid supplies, drinking water, flashlights and food.

Judging from some research the public does apparently want information and a roll in local response activities. Recommending and trying to implement specific plans of action for members of the public is always difficult. Turning members of the public into first responders presents daunting practical problems such as finding money for equipment and providing training. Coordination and

incident command issues are extremely difficult. As a result, very few communities have gone to this level.

Instead the LEPCs and first response agencies have focused on elements that involve public action under specific direction from the emergency response agencies. The LEPCs and first response agencies will work on developing evacuation plans and warnings to be used in appropriate circumstances. Rarely is there much communication of these plans to the public and almost never is there an exercise on these plans so it is difficult to know how well they will work. In Colorado the bulk of our practice on things like evacuation plans comes from wildfire and winter storm events and they do not always go very well. It seems that the public is predictable only to a very limited extent even when presented with guidance and common purpose.

In Colorado we emphasize accident prevention as a key element of the LEPC activities. We recognize that chemical accidents will happen and that preparedness is crucial. Nonetheless, working with facilities to reduce the potential for accidents is in our view a dramatically more useful endeavor than simply waiting for the emergency phone to ring.

The point of this paper from this point forward is to examine the role of the LEPCs in evaluation of the risks faced in their communities and their activities focused on accident reduction and prevention. In this regard the LEPCs mirror their community's concerns with facilities handling chemicals. As noted before that will vary substantially from community to community. Nonetheless, success depends upon understanding that ultimately what the public wants is success in preventing accidents and responding promptly to those that occur.

The largest industrial facilities in the United States can be counted upon to have a high level of expertise regarding accident prevention. They will have internal staffs, systems of management and accountability, and a clear understanding of the regulatory environment in which they operate. This is not

true of smaller facilities and is especially not true when one moves from chemical manufacturing facilities to those facilities that use and store chemicals as part of their business. Even worse will be those facilities that are primarily engaged in agricultural industries where the level of training in handling chemicals is suspect and the regulatory environment is permissive.

Many LEPCs focus on non-manufacturing and agricultural facilities for precisely these reasons. The techniques are numerous, but typically involve finding and providing information and training resources to both the emergency response agencies as well as the facilities themselves. Sources of this information are diverse but will include publications of government agencies such as the U.S. Environmental Protection Agency and industry trade associations.

These efforts do not rely on government agency inspectors. In fact, many of the facilities presenting the greatest risks are at a size below that where they get much attention from the agencies. Instead, it is the local agencies such as fire departments and building departments that may be the only regulatory authority paying any attention to these facilities. As these agencies do not have specialized skills with chemical hazards it becomes the function of the LEPCs to try and educate these agencies in the most crucial aspects of accident prevention.

As the LEPCs do not have regulatory authority, which the exception of gathering information about chemicals present, effecting change and accomplishing accident prevention puts a premium on public relations skills. Fortunately the LEPCs have a built-in advantage. They are part of the community. They are neighbors to the agencies and the facilities. They know each other.

A powerful and successful argument with a facility owner emphasizes the interdependence of these communities. It can be reduced to a very fundamental statement of fact. If the facility has an accident it will harm their friends

and neighbors. If the facility has an accident they will want these same friends and neighbors to respond as volunteer fire departments and provide aid to the facility. Each has a responsibility to the other and each is dependant on the other to do their part.

Accident prevention opportunities flow from this dependence. LEPCs can and do meet with facilities owners to provide information about accident prevention techniques. The LEPC is not and does not need to be an expert in these matters. They only need to be able to identify advice from expert sources and work with the facility to encourage them to implement these suggestions.

Many of these suggestions will not be complicated. Chief among them are ideas such as inventory reduction and control, appropriate maintenance schedules, employee training on the safe handling of their chemicals, safer storage, spill containment techniques and improved facility security. More complicated but still quite achievable are ideas dealing with process change and materials substitution.

Achieving these sorts of changes requires attitude more than money. It is a matter of creating an expectation within the entire community that preventing accidents is crucial. Communities have a way of demanding accountability from all segments of that community. Be it the emergency response agencies, facilities or the LEPCs, each is answerable to the other members of the community for their part of the puzzle.

With such an attitude even the most sophisticated process engineering changes can be accomplished. Communities can help fund changes that require capital investment and in at least one case in Colorado actually paid to relocate the entire facility to an area much farther away from the population of the community. As these communities are typically lean in resources, attitude is perhaps the only real asset they possess. There is value in the ideas that result from these attitudes and it is the LEPC that needs to lead the way in trying to bring these ideas forward and to completion.

In the 20 years since the terrible accident at Bhopal and the continuing tragedy of its impact, much has changed and much change is yet needed. The international APELL program has brought the techniques and ideas of public involvement to many corners of the world. In the United States the very similar EPCRA programs and LEPCs have converted the public from passive observers to vital participants in their own safety.

These programs do not yet exist in all places subject to the risk of chemical facility accidents. In many places there is still an adversarial relationship between facilities and the communities in which they are located. Larger manufacturing facilities do not get credit for all the positive changes they have made while yet being challenged to do more. Smaller facilities are ignored by the regulatory agencies, trade associations and even their own communities. There is a lack of that sense of community we feel is crucial to success.

Money is not the solution to these problems. Personal dedication to a positive attitude is crucial. Whether these people are volunteers with the LEPC, work with facilities or are connected with emergency response agencies, individual rather than institutional attitudes are the thing that accomplishes change and progress.

Perhaps one of the key legacies of Bhopal is a recognition that regulatory systems alone do not prevent accidents. Members of the public are no longer voiceless observers of the chemical facilities in their communities. They have a roll and that roll is not just to complain and oppose, but to develop positive relationships within the community to improve the safety of all.